

What is claimed is:

1 1. A method for generating transmit power adjust commands in a
2 wireless communications network comprising:
3 detecting interference conditions; and
4 generating power adjust commands in accordance with a system-
5 based power control operation when said detecting step detects an
6 increased interference condition.

1 2. The method of claim 1, further comprising:
2 returning to a normal power control operation after the increased
3 interference condition has eased.

1 3. The method of claim 1, further comprising:
2 generating power adjust commands for the mobile in accordance with
3 an individual mobile-based power control operation when said detecting
4 step does not detect an increased interference condition.

1 4. The method of claim 1, wherein said system-based power control
2 operation includes:

3 comparing a signal-to-interference measurement for the mobile with a
4 target signal-to-interference level for the mobile;

5 generating a power down-adjust command when the signal-to-
6 interference measurement for the mobile is greater than the target signal-
7 to-interference level for the mobile; and

8 determining whether to generate a power down-adjust command when
9 the signal-to-interference measurement for the mobile is less than the
10 target signal-to-interference level for the mobile.

1 5. The method of claim 4, wherein said determining step determines
2 whether to generate a power down-adjust command when the signal-to-
3 interference measurement for the mobile is less than the target signal-to-
4 interference level for the mobile based on a statistical probability.

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6. The method of claim 1, wherein said system-based power control operation includes:

generating a power adjust command based on a comparison of a signal-to-interference measurement for the mobile and a target signal-to-interference level for the mobile;

judging whether an erasure frame has been received for the mobile; and

determining whether to adjust the target signal-to-interference level for the mobile when an erasure frame has been received for the mobile.

7. The method of claim 6, wherein said determining step determines whether to adjust the target signal-to-interference level for the mobile when an erasure frame has been received for the mobile based on a statistical probability.

8. The method of claim 4, wherein said system-based power control operation further includes:

judging whether an erasure frame has been received for the mobile; and

determining whether to adjust the target signal-to-interference level for the mobile when an erasure frame has been received for the mobile.

9. The method of claim 1, wherein said system-based power control operation further includes:

lowering a limit on how high target signal-to-interference levels may be increased during an outer loop power control operation.

10. The method of claim 1, further comprising:

determining whether an increased interference condition detected by said detecting step has persisted for a predetermined time period; and

adjusting a parameter of the system-based power control operation when said determining step indicates that an increased interference condition detected by said detecting step has persisted for the predetermined time period.

11. The method of claim 5, wherein the statistical probability is variable.

12. The method of claim 7, wherein the statistical probability is variable.

13. The method of claim 1, wherein said detecting step monitors changes in total reverse link signal strength at the base station.

14. The method of claim 1, wherein said detecting step monitors absolute total reverse link signal strength.

15. The method of claim 1, wherein said detecting step monitors a ratio of power up-adjust commands to total power adjust commands.

16. The method of claim 1, wherein said detecting step monitors signal-to-interference levels for a plurality of mobiles.

17. A power control system for generating transmit power adjust commands in a wireless communications network, comprising:
detection means for detecting interference conditions; and
generating means for generating power adjust commands in accordance with a system-based power control operation when said detection means detects an increased interference condition.

18. The power control system of claim 17, wherein said generating means returns to a normal power control operation after the increased interference condition has eased.

19. The power control system of claim 17, wherein said generating means generates power-adjust commands for the mobile in accordance with an individual mobile-based power control operation when said detection means does not detect an increased interference condition.

20. The power control system of claim 17, wherein said system-based power control operation includes:
comparing a signal-to-interference measurement for the mobile with a target signal-to-interference level for the mobile;

5 generating a power down-adjust command when the signal-to-
6 interference measurement for the mobile is greater than the target signal-
7 to-interference level for the mobile; and

8 determining whether to generate a power down-adjust command when
9 the signal-to-interference measurement for the mobile is less than the
10 target signal-to-interference level for the mobile.

1 21. The power control system of claim 20, wherein said power control
2 system determines whether to generate a power down-adjust command
3 when the signal-to-interference measurement for the mobile is less than the
4 target signal-to-interference level for the mobile based on a statistical
5 probability.

1 22. The power control system of claim 17, wherein said system-based
2 power control operation includes:

3 generating a power adjust command based on a comparison of a
4 signal-to-interference measurement for the mobile and a target signal-to-
5 interference level for the mobile;

6 judging whether an erasure frame has been received for the mobile;
7 and

8 determining whether to adjust the target signal-to-interference level
9 for the mobile when an erasure frame has been received for the mobile.

1 23. The power control system of claim 22, wherein said power control
2 system determines whether to adjust the target signal-to-interference level
3 for the mobile when an erasure frame has been received for the mobile
4 based on a statistical probability.

1 24. The power control system of claim 20, wherein said system-based
2 power control operation further includes:

3 judging whether an erasure frame has been received for the mobile;
4 and

5 determining whether to adjust the target signal-to-interference level
6 for the mobile when an erasure frame has been received for the mobile.

1 25. The power control system of claim 17, wherein said system-based
2 power control operation further includes:

3 lowering a limit on how high target signal-to-interference levels may
4 be increased during an outer loop power control operation.

1 26. The power control system of claim 17, wherein said detection means
2 determines whether an increased interference condition has persisted for a
3 predetermined time period, and adjusts a parameter of the system-based
4 power control operation when an increased interference condition detected
5 has persisted for the predetermined time period.

1 27. The power control system of 21, wherein the statistical probability is
2 variable.

1 28. The power control system of claim 23, wherein the statistical
2 probability is variable.

1 29. The power control system of claim 17, wherein said detection means
2 monitors changes in total reverse link signal strength.

1 30. The power control system of claim 17, wherein said detection means
2 monitors a ratio of power up-adjust commands to power down-adjust
3 commands.

1 31. The power control system of claim 17, wherein said detection means
2 monitors signal-to-interference levels for a plurality of mobiles.

1 32. The power control system of claim 17, wherein said detection means
2 monitors total reverse link signal strength.

1 33. A method for generating transmit power adjust commands in a
2 wireless communications network comprising:

3 detecting interference conditions;

4 selecting a first power control scheme when said detecting step does
5 not detect an increased interference condition;

6 selecting a second power control scheme when said detecting step
7 detects an increased interference condition; and

8 generating power adjust commands based on the selected power
9 control scheme.

34. The method of claim 33, wherein the second power control scheme is
a modified reverse inner loop power control scheme.

35. The method of claim 33, wherein the second power control scheme is
a modified reverse outer loop power control scheme.

36. A power control system for generating power adjust commands in a
wireless communications network, comprising:

detection means for detecting interference conditions;

selecting means for selecting a first power control scheme when said
detection means does not detect an increased interference condition and
selecting a second power control scheme when said detection means detects
an increased interference condition; and

generating means for generating power adjust commands based on
the power control scheme selected by said selecting means.

37. The power control system of claim 36, wherein the second power
control scheme is a modified reverse inner loop power control scheme.

38. The power control system of claim 36, wherein the second power
control scheme is a modified reverse outer loop power control scheme.